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ABSTRACT

Ongoing research conducted by the Welsh Language Research Unit of Cardiff, Wales is described. This research has concentrated mainly on recording and describing the phonology of some varieties of Welsh spoken in South-East Wales, particularly as it is associated with geographic areas and affected by population changes resulting from industrial development. The phonology of the dialects under study is compared and described in some detail. Tables illustrating the dialectal variations are included, as is a list of unpublished dissertations from the University of Wales on which the present work was based. (PM)

SOME PHONOLOGICAL ASPECTS OF SOME WELSH DIALECTS OF SOUTH-EAST WALES

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The Welsh Language Research Unit at Cardiff has existed, in one form or another, since 1961, and during that time it has concentrated mainly on recording and describing the phonology of some of the varieties of Welsh spoken in S.E. Wales. This area, extending from west Monmouthshire into east Carmarthenshire, is the most heavily industrialised part of Wales and has experienced a tremendous influx of population from all over Wales and from outside. This industrialisation began with the establishment of the iron works in the hill country of north Glamorgan and north Monmouthshire in the latter part of the 18th century, as a result of which Merthyr Tudful, at the centre of the new industrial area, became the largest town in Wales until the rise of Cardiff with the development of the coal measures of the Rhondda Valley, and of other valleys in its hinterland, from the middle of the 19th century onwards.

When the Unit began its work, doubts were expressed as to whether the area was one in which dialectologists could work with profit, on the grounds that the area had suffered considerable linguistic disturbance comparatively recently and that a linguistic melting pot into which the dialects of all Wales had been flung within a comparatively short space of time was hardly a place to study dialect. Those engaged in the work, however, felt from the outset that the study should yield useful information on the ways in which language changes and develops in such a situation. Moreover, it seemed plausible to suppose that, among whatever new varieties of Welsh were emerging from the

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melting pot, there would be pockets in which the indigenous variety survived which would give a pointer to the ways in which the language had been affected elsewhere in the region. This would seem to be true of the Nantgarw area in the Taff valley in the vicinity of Cardiff. Industrialisation did not catch up with this area in any strength until the present century and most of the villagers belonged to families whose roots in the area went back to a period before industrialisation began.

The work went forward, therefore, and several areas in north Glamorgan and north Monmouthshire have now been studied as well as others in south-east Glamorgan and an area in east Carmarthenshire.[1]

From these studies, an interesting picture is beginning to emerge, one that does not lack some surprises for those who started off with the melting pot idea. For what is emerging is a consistent pattern of linguistic features, some of which are shared by all the local varieties studied, while others slowly disappear as one moves in any one direction, west or north, across the speech area, to be replaced by other features which characterise varieties outside the industrialised region still further west or still further north. Quite simply, the pattern that is coming to light across the area is just what one would expect in a stable dialect area in which there had been no important linguistic upheaval.

It is difficult to believe that so great an influx of people into the region has had no effect upon the local variety, but it is certainly not easy to pinpoint them in its phonology. In Patagonia, one is constantly aware that the Welsh language <u>is</u> in a linguistic melting pot and that a new synthesis is emerging. In S.E. Wales, on the other hand, one is aware of the self-consistency

of the language over the whole area and the predictable nature of the change leading to the disappearance of one feature and the emergence of another across the region and into the rural areas beyond. In a rural area, such a situation would occasion no surprise, but in an urbanised area such as this, it would be reasonable to expect that the pattern had been disturbed or destroyed.

Within the space at my disposal, I can discuss a few only of the features which make up the dynamic pattern referred to above. Let us begin by noting some features of the Nantgarw dialect and follow them up as they are realised in the other sub-dialects of the area.

This dialect has an overall vowel inventory of 12 single vowels and 8 vowel clusters.

The single vowels are:

/i, e, æ, ɑ, o, u/, which are phonologically long.

/ɪ, ɛ, a, ɒ, ɔ, ə/, which are phonologically short.

The vowel clusters are:

(i) 4 closing to /i/:- /əi, ɒi, ɔi, ɐi/.

(ii) 4 closing to /u/:- /ɪu, ɛu, au, ɐu/.

It has an inventory of 22 consonants and 2 semi-vowels:

Stops: /p, b, t, d, k, g, tʃ, dʒ/.

Nasals: /m, n, ŋ/.

Lateral Non-Fricative: /l/. Always clear.

Lateral Fricative: /ɬ/.

Trill: /r/. Tongue tip alveolar trill.

Fricatives: /fv, θð, sz, ʃ χ/.

Semi-vowels: /j, w/.

This inventory is substantially that of the whole area

under review here, and sub-dialects differ only in including or not including the front half-open vowel /ɛ/.

Consonants.

The voiced alveolar fricative /z/ and the affricates /tʃ, dʒ/ are classed as borrowed sounds by speakers of Welsh; the alphabet has no means of symbolising them and there is some tendency in all dialects to interchange /tʃ/ and /ʃ/ and say, e.g. [tʃauns/ʃauns]. /z/ certainly is outside the system of standard Welsh and of many dialects, and over large areas of Wales people have not learnt to articulate it satisfactorily if at all. Even people who have learnt to distinguish it auditorily in the speech of others need not necessarily have learnt to articulate it themselves or even to make the correct auditory judgment in their own speech. But /z/ is a feature of the sound system of the whole S.E. area from Tafarnau Bach and Nantgarw westwards. It holds its own into Carmarthenshire, being still in evidence in Llangennech; it goes northwards through Breconshire, at least as far as Godre'r Epynt. In all dialects, it is of limited distribution, occurring in borrowings almost exclusively; [zu, sɛrno, zebra]. Word finally, it realises the English pluralising morpheme, which is usually attached to borrowed forms: [bablz, razarz] and to a small set of native words: [gwlθorz, ɨrnz]. The dialects of the area vary a little in their readiness to accept /z/ in this function, the hill dialects[2] showing greater readiness to do so than dialects further south, particularly in the pluralisation of nouns in [-or] as /[-orz] instead of [-wɨr]. In earlier borrowings, the English pluralising morpheme is always realised as /s/,

e.g. [pɪɪs, wɪrs]. Obviously /z/ was not established in the dialect when these words entered the lexicon.

By the time North Breconshire is reached, however, speakers vacillate between /z/ and /s/ without any phonetic or phonological reason for the variation, with the result that it is impossible to state the distribution of the two sounds in the dialect or even in individual idiolects. This type of free variation is not uncommon when a linguistic feature enters an area of transition.

/tʃ, dʒ/ also occur mainly in borrowed forms, but these sounds have evolved independently in Welsh itself by coalescent assimilation of the sequences /t + j/ or /d + j/ and borrowing has merely extended their distribution and functional load. In native words, /tʃ/ occurs medially only: [kɪtʃo, sgɪtʃa], but in borrowings, it may occur in all positions: [tʃaɪn, watʃ, watʃɪz]. /dʒ/ occurs initially only in native words: [dʒonɪ, dʒokɪ, dʒaul] and in all possible positions in borrowings: [dʒog, dʒɪdʒo, sædʒ].

The reluctance of speakers to accept these sounds as other than foreign-learned may be due to the difficulty of incorporating them into the system of initial mutation. As stops, the affricates should be able to take part in this system, and there are dialects, particularly northern dialects, where /tʃ/ has been integrated into the system to the extent of being affected by lenition and nasalization, e.g. [tʃɪklad, de dʒɒklad dɪ, en nʃɒklad ɪ]. In the S.E., the only dialect that has partially assimilated the affricates to the mutation system seems to be the south Glamorgan dialect of the Ely Valley, and that only to the extent of leniting /tʃ/ to /dʒ/. In all other dialects

of the area, /tʃ/ belongs to the class of immutable consonants. In the case of /dʒ/, when the rules require lenition, the assimilation is disentangled, as it were, and the form handled as a combination of /d + j/. Hence, a form like [dʒonɪ] is lenited to [ðjonɪ].

The appreciable length of the first element in vowel clusters is characteristic of the whole of east Glamorgan. This length feature is most marked in the southern dialects of Nantgarw, Coety Walia and Rhuthun, and Dyffryn Elái (the Ely Valley), an area which seems to be at the centre of the feature, but it characterises the whole area into Carmarthenshire. Northerners are much struck by this feature, since it is popularly supposed that lengthening of the first element of diphthongs is a northern feature. It is particularly apparent in monosyllables, e.g. [ɬɑ:u, tɛ:u, ɬɪ:u, ɬo:ɪ, dɔ:ɪθ] but can also be distinguished in the stressed penultima, e.g. [ɬɪ:uo, ɬo:ɪa, fɔ:ɪsɪð, pɔ:ɪnɪ].

The whole question of vowel length and of the distribution of the long vowels in positions of stress is a dialectal feature of some importance in Welsh. Phonetically close and half-close long vowels are much closer in quality over a great part, if not the whole, of South Wales than in the North, where a marked downward shift is apparent and where they are limited to monosyllables and to open syllables in the stressed penultima.

In east Glamorgan, the long vowels have a heavy functional load in the stressed penultima, as great as have the short vowels, e.g. [pɪko, kenol, avɪ, porɪ, buru]. The feature persists all over Glamorgan and well beyond; there are few signs at Llangennech that it is contracting. If we turn to Dyffryn Wysg in Breconshire, however, we find that we have entered the

area of transition of the feature. The functional load of long vowels in the penultima has now obviously contracted, with /ɑ,e/, especially /ɑ/, being more affected than the others. Of 98 items listed in the lexicon of Nantgarw as having penultimate /ɑ/, only 19 are so listed in Dyffryn Wysg, e.g. [bɑ:sur, krɑ:χɛn, tɑ:dɛ, etc.] and of these two [bɑ:χan/ bɑχan, sɑ:χɛ/ sɑχɛ] are listed as doublets. There is also an appreciable increase in forms in which /ɛ/ now appears instead of /e/, e.g. [dɛrrɨ, pɛrɛrrɨn, wɛrru] which in Nantgarw and the Glamorgan dialects generally would be [derɨ, pererɨn, gweru]. This is our first indication that the Glamorgan-Breconshire border is a more important dialect boundary than the Glamorgan-Monmouthshire border. The latter, in fact, is not a major dialect boundary at all, and the dialect of Tafarnau Bach, on the Monmouthshire side, is demonstrably a sub-dialect of Glamorgan.

This reduction in the functional load of a feature rather than its total disappearance and an increasing occurrence of doublets is a characteristic we have come to expect in our attempts to trace the geographical distribution of linguistic features, as a marker of an area of transition. Where a set of items exhibit a feature, all the items do not come under attack together. In North Breconshire, in Godre'r Epynt, we find that /ɑ/ and /e/ contract still further, while the other long vowels now come under attack. Very few items now belong exclusively to the /o/ set, e.g. [dovɨ, ovan, govɨd] etc., and there is a high proportion of doublets such as [hogɨ/hɒgɨ; hoɨl/hɒɨl; kodɨ/kɒdɨ]. /ɨ/ similarly has given way almost completely to /ɪ/ as realisation of the graphemes "i,u."; only 8 occurrences have yet been noted of /i/ realising the

grapheme "i" and 22 occurrences of "u". Doublets also, e.g. [pɪgo/pɨgo; kɪɪro/kɪɨro] are few. On the whole, /i/ in this dialect realises the diphthongs "ei" [pɪdo, nɪdo, hɪbo, ɪdon, travɪɪɪ, gwɪʃon] etc. or "ae" [gwɪdɪ, fɪɪɪ, sɪθɪ, gwɪɪod] etc. This fact highlights one interesting difference between historical and geographical changes in language. The survival of[pɪdo, nɪdo, etc:] at the time /i/ was changing to /ɨ/ would lead the historical linguist to suppose that at the time of change these items could not have been in the /i/ set. But the fact that /i/ in these sets of items, in Godre'r Epynt, is phonetically indistinguishable from /i/ in [dɪɪɨn](dilyn), [ɪreð](iraidd), [gɪɪθog](gwlithog), [bɪgaɪ](bugail), [sgɪbɛ] ysgubau)etc., does not cause them of necessity to follow the same geographical distribution. When the work in Breconshire has been completed, it may be possible to trace more exactly the disappearance of the South Eastern pattern of long/short vowel distribution in the stressed penultima and the emergence of the Northern pattern.

The statement of the sound system of Nantgarw Welsh marks it

(1) as a dialect of the south.

(2) as a dialect of the S.E. and specifically of east Glamorgan.

Among the markers of the dialect as southern are

(a) that it lacks the 2 rounded central vowels /ɨ, ɨ/ that today are exclusively a feature of the phonology of Northern Welsh.

(b) that its inventory of vowel clusters is limited to 8 diphthongs.

Southern varieties of Welsh have 11-12 simple vowels and 8 diphthongs, whereas in Northern varieties, the inventory consists

of 13-14 simple vowels and 11-14 diphthongs.[3]

The 2 close central vowels do not seem to occur with distinctive function in any dialect of the S.E. In the Coety Walia-Rhuthun area, however, they were found to occur in free variation with the unrounded close front vowels as realisations of the graphemes "u,y". In quality, they are sufficiently like that of the Northern pair to be acceptable to a northern speaker.

As a southern dialect, Nantgarw's status as a sub-dialect of east Glamorgan is marked by the occurrence of /æː/ in its vowel system. This vowel[4] is of very limited distribution, for it occurs only in mono-syllables and stressed final syllables. It is a feature of the south Glamorgan dialects of Nantgarw, Coety Walia-Rhuthun, Dyffryn Elai, as well as those of the hill country from Tafarnau Bach through Merthyr Tudful to Aberdare. At the latter place, its functional load has weakened considerably and by the time we reach Hirwaun, it has become marginal to the system, surviving in 4 items only in free variation with /ɑ/: e.g. [sɑv/sæːv, tɑn/tæːn, o vlɑn/o vlæːn, næː [χ, χɪ]. A few miles further on, at Rhigos, it has disappeared completely. Further south, however, the feature persists as far as the Afan Valley in west Glamorgan.

It varies somewhat in phonetic realisation. At Nantgarw, it is between half open and half close in quality, being closer than the short, half open /ɛ/ of the dialect. It is a simple vowel in Nantgarw and the hill dialects, though an involuntary glide may occur before consonants. But in Coety Walia and Dyffryn Elai, it is much more open than elsewhere in the area, and the glide is an integral part of the sound. Mr. Phillips

classes it as a diphthong in the Dyffryn Elâi dialect and, phonetically, it is a centring diphthong in this dialect, moving in the direction of a somewhat fronted back vowel /ɑ/.

An interesting fact regarding the distribution of this vowel is that it reappears in Northern Wales, running across Montgomeryshire and Merionethshire to the coast. Here again, it is markedly diphthongal and in quality it is very similar to that heard in the dialects of Coety Walia-Rhuthun and Dyffryn Elâi. It has not been noted in Breconshire.[5]

A joke often heard at Nantgarw in my childhood was one about a mythical Northerner who had come to Glamorgan to the pits and returned home for a holiday. His friends asked him how far south he had gone and he replied, "I've gone so far south that the sun has turned to oil!" This bilingual joke turns on the fact that in all east Glamorgan dialects, with the exception of Rhigos, the Welsh word "haul"(sun) and the English word "oil" are phonetically identical. There are two reasons for this, (1) their significant sound segments do not include the glottal fricative,[6] and (2) the diphthong symbolised graphically as "au" has /ɔɨ/ as one of its realisations.

This correspondence between "au" and /ɔɨ/ is often taken as one of the important distinctive markers of Southern Welsh, although it can scarcely be said to be important in terms of functional load, for the total number of possible occurrences noted to date is a set of 38 items.[7] But it is a feature of topographical importance, for it extends over the whole Southern Welsh dialect area. Dialects vary considerably in the number of items from the set they have selected. In east Glamorgan, the average is 12 items while at the other end of the S.E.,

the number has gone down to 7 items noted at Llansanlet and 5 each in Dyffryn Llwchwr and Llangennech. This is the area in which the feature seems to be at its lowest ebb, but the contraction does not in this case signal that the feature has reached its periphery for we find it re-established in the S.W.; and at Cellan, where 25 items were noted, it may have reached its peak. It reaches a similar peak in North Breconshire, also, where 20 items have been noted in Godre'r Epynt.

In addition to lacking /h/, the dialects of the S.E. lack also the voiceless alveolar trill /r̥/ symbolised graphically as "rh", which occurs in the systems of other forms of Welsh. A description of the mutation system of the S.E. dialects would show that the voiceless nasals[8] present in the morphophonological systems of other dialects are also lacking. All these: the glottal fricative, the voiceless trill and the voiceless nasals seem to go together in Welsh; a dialect that lacks the glottal fricative will also lack the voiceless trill and voiceless nasals. We have to go beyond the S.E. area, westwards before they establish themselves.[9] To the north, it is not until we reach Godre'r Epynt in North Breconshire that the glottal fricative and the voiceless trill begin to appear. The voiceless nasals, however, are still lacking. The informants are all natives of the area and have lived there all their lives; yet they can be divided into three groups:

(1) a group in whose sound system /h/ and /r̥/ are fairly well established.

(2) a group in whose sound system both /h/ and /r̥/ are lacking.

(3) a mixed group, in which some speakers have /h/ and some /r̥/ in their system.

This difference is not a difference between the generations, for the informants all belong broadly to the same age group, rather it is a typical transition area situation. These sounds, as well as the voiceless nasals, are well established by the time we reach Montgomeryshire and they are characteristic of all Northern varieties of Welsh.

This feature of the phonology of North Breconshire as well as others not dealt with in this paper mark the area as one in which features of Northern Welsh begin to establish themselves. It is a matter for regret that it will be impossible to trace the transition from Southern to Northern Welsh through Radnorshire, owing to the disappearance of the language from that county.

The Tonic Syllable. Within east Glamorgan, speakers are aware of certain specific differences within the area. One of these is that speakers from the hill country seem to say /ɐi / in the tonic syllable where those to the South-West and North of them say /i/. If we look at dialectal reflexes of the standard diphthongs symbolised graphically as "ae, eu, ei" (Fig.1), we shall begin to understand speakers' impressions. The possibilities within the dialects are [ɑi , ɐi , i], "doublets" such as [ɑi /i] or other combinations, or, more rarely, other realisations, noted in Fig.1. A rough quantification gives us the following picture:

South East		ai	ei	i	doublets	other
East	DE	28	18	48	2	4
	C.W	20	32	41	3	4
	N	0	58	36	0·3	3·7
	T.B	5	42	39	10	12
	M.T	1	72	7	18	2
	H	0	83	3	12	2
	Rh	1	89	4	1	5
Drecs[11]	Wysg	0	33	54	7	6
West	Llans.	1	2	86	3	8
	D.Ll	0	[ei-13][10]	83	0	4
	Llang.	0	24	69	4	6

If we follow these figures westwards, or northwards, we find how consistent the general trend is, with the westwards transition falling within the mid-Glamorgan area, an area not looked at in this paper. e.g.

Westwards:

	N	C.W	DE		Llans.	D.Ll.	Llang.
ai	0	20	28		1	0	0
ei	58	32	18		2	13[ei]	24
i	38	41	48		86	83	69

Northwards

	N	MT	D.W	or	DE	M/Rh	DW
ai	0	1	0		28	0/1	0
ei	58	72	33		18	83/89	33
i	38	7	54		48	3/4	54
doublets	0·3	18	7		2	12/1	7

Tafarnau Bach seems to be more closely related to the southern dialects than to its fellow northern dialects in this feature, particularly Coety Walia-Rhuthun and Dyffryn Elái:

	DE	CW	[N]	T β
aɪ	28	20	[O]	5
eɪ	18	32	[5]	42
ɪ	48	41	[38]	39

It will be seen that /ai/ as a reflex of the grapheme "ae" is almost exclusively a feature of the two most southerly dialects, that /eɪ/ and /i/ are fairly equally balanced in the more easterly dialects of Nantgarw and Tafarnau Bach, and that the hill dialects of Merthyr Tudful, Hirwaun and Rhigos are overwhelmingly in the /eɪ/ area. The western dialects and those of Breconshire, on the other hand, are overwhelmingly in the /i/ area.

I have dealt at such length with the distribution of this feature in order to illustrate the dynamic patterning of linguistic features across this region and into the regions beyond. Any feature whose path one might choose to trace in this way would exhibit the same dynamism. Dynamic patterning of features presents problems of description to the linguist attempting to describe any given sub-dialect, for it creates complexities difficult to account for by reference to the dialect's internal system. It seems possible to handle it satisfactorily only when it is treated as a marker of the dialect's place within a wider system, the system of a whole region.

<u>The Post-Tonic Syllable</u>. The post-tonic syllable presents a number of important features by which one can plot dialect boundaries in our region. I shall glance briefly at the way the diphthongs "ae, au, ai" and the vowel "e" are realised in this position.

Dialectal reflexes of these diphthongs offer a choice

of /a, ɨ, ɛ/, – and, once again, as we saw in the case of the tonic syllable, the permutations of choice can be quite complicated. Hirwaun is here an area that exhibits the apparent confusion of possibilities that we have found can occur somewhere along the line of transition from one feature to another. The numerically prominent choice is the one that marks the place of the dialect in the dynamic patterning of its region, while the other choices serve to give it its distinctive identity. ae, au are realised by /a/ in east Glamorgan dialects and by /ɛ/ in those of the west and of Breconshire. The transition area is as far west as Llansamlet and as far north as Dyffryn Wysg, in both of which /a/ and /ɛ/ are fairly equally balanced. The reflexes of "ai" offer a choice between /a, ɨ, ɛ/ and divide the region into three groups:

(1) the 3 southern dialects with /ɛ/ as main realisation.

(2) the 4 hill dialects with /a/ mainly but showing increasing transition to /ɛ/.

(3) the 3 western dialects and those of Breconshire with /ɛ/ as main realisation.

Post tonic "e" is realised by /a/ only in the 3 southern dialects; by /a/ mainly in the 4 hill dialects but each has a small set in /ɛ/[11]; it is realised by /ɛ/ only elsewhere in the region.

The three southern dialects can be distinguished from all the others by the fact that /ɛ/ does not occur in their post-tonic systems.[12] The transition area for the feature going northwards is the area of north Glamorgan and south

Breconshire: the Glamorgan dialects are inside the post-tonic /a/ area but on the periphery of the post-tonic /ɛ/ area. In Tafarnau Bach and Rhigos, the change to /ɛ/ is only beginning but in Merthyr Tudful and Hirwaun, especially Merthyr Tudful, it is far advanced.[13] By the time Dyffryn Wysg is reached, the transition is almost complete and the dialect shows only 5-6% of forms still exhibiting post-tonic /a/. Similarly, the three western dialects on the Glamorgan-Carmarthenshire border are within the post-tonic /ɛ/ area but still on the periphery of post-tonic /a/. The feature contracts rapidly within this area from 20% in Llansamlet to 10% in Dyffryn Llwchwr to only 6% in Llangennech.

A feature of the S.E. dialects shared by the whole South Wales region is the realisation of the grapheme "oe" by /o/. Its only post-tonic realisation is /o/, e.g. [pɪnoð, trɔtnoθ, kɛvoθ, argol, ɨɛtgros, wɪlboθ, etc.]. In monosyllables, a set of 29 forms has been noted, e.g. [kod, frɔn, or, pon, trod, etc.]. A set of 7 forms has been noted in the tonic penultima, e.g. [trɔdvað, argoll, etc.] and a set of 6 forms in pre-tonic syllable, e.g. [frɔnɛχal, noθlɔmɪn, trɔdveðl, etc.]. Outside these sets, the realisation is /ɔɪ/, e.g. [bɪɔɪʃg, kɔɪθ, dɔɪθ, etc.]. The feature leads to vowel alternation of the type /o/~/ɔɪ/, such as [kos/kɔɪsa, frɔn/frɔɪna, etc.], and it is not uncommon to find some forms in which /o/ realises the grapheme "o" not "oe" being drawn into this pattern of vowel alternation, e.g. [kor, fos], which should have the shape [kora, fosɪð] in the plural, take the form [kɔɪra, fɔɪsɪð] in some of the dialects.

As is usual with sets of this type, the dialects vary somewhat in the number of forms selected by them from the

set. It is fairly complete in most dialects, however, and any gaps may be accidental, for they do not exhibit a distributive pattern.

An important feature of the Welsh of the S.E. is that known as Provection, which extends over the whole region into east Carmarthenshire and northwards into north Breconshire.[14] It is realised as devoicing of voiced plosives at the end of the tonic syllable[15] either

(1) between vowels, and, marginally, between the diphthong /ɔi/ and a simple vowel.

(2) between vowel and voiced consonant[16] i.e. it occurs in voiced contexts. The consonants that may form part of the context are:

(a) the sonants /r, l, n/.

(b) the semi-vowels /j,w/.

(c) the voiced labio-dental fricative /v/, but examples of this are rare.

The vowel preceding the provected consonant is usually long, but short vowels are not infrequent in this position.[17]

Provection is a historical feature, in that it has permanently affected the historical shape of an appreciable part of the lexis of these dialects.

As seems usual with dialectal features, provection is realised,over its area, by a specific set of forms (more than 700 forms in this case), from which each dialect makes its own selection. The whole set has not been noted in any one dialect, partly because some of the forms are absent from the lexicon of an individual dialect and partly because some forms from the set may resist provection in a dialect. It is difficult to account

for this. It may be illustrated from the dialects of Nantgarw and Rhigos, the two dialects in which provection is strongest in terms of the number of items from the set selected by them:-

Rhigos: bɪkaɪ, deχmegɪ, atnɒd, kagɪa, ɒtɪ, ɒɪtrɒn, sɒtɪa.
Nantgarw: bɪgaɪ, deχmekɪ, adnoɔ, kakɪa, odɪ, ɒɪdrɒn, sɒdɪa.

It is not always easy to find phonetic or phonological reasons for non-provection in that part of the lexicon outside its scope, although they provide the appropriate contextual conditions, but the following points may be noted. Forms do not exhibit provection (1) when the syllabic is a diphthong other than /ɔɪ/, (2) when the syllabic /ɪ/ is the dialectal reflex of the grapheme "ei", e.g. [pɪdo, nɪdo, nɪdɪr](peidio, neidio, neidr) (3) when final consonant clusters have been simplified by epenthesis e.g. [bɪdɪr, kubɔɪ, ɬɔɪbɪr, gwɪdɪr, saudɔɪ](budr, cwbl, llwybr, gwydr, sawdl). Some exceptions to this rule have been noted.

Provection is still synchronically operative and speakers often conform to it when they take into their speech forms heard unprovected from speakers of varieties of Welsh which do not have the feature. This they can do consciously and when asked whether a form occurs in their dialect, they may be uncertain until they have caused it to provect.[18]

Provection normally affects plosives closing the tonic syllable. In other positions, it does not occur, so that related forms may pattern as follows:- [gɨpod/gwɪbotɪs; katar/kadɪra; ɬekad/ɬegetɪn]. Occasionally, however, the provected form becomes fossilized and all dialects show pairs such as [mɒtrɪb/mɒtrepoð] instead of [mɒdrepoð]; [gwɪtwar/gwɪtwerod] instead of [gwɪdwerod]; [ɬɔɪtreu/ɬɔɪtreul] instead of [ɬɔɪdreul].

The feature is strongest in the three southern dialects and in Rhigos, but the three other hill dialects and Llansamlet in the west are still well within its domain[19]. Beyond Llansamlet in Dyffryn Llwchwr and across the Breconshire border, we find ourselves in the western and northern areas of transition of provection. In Dyffryn Wysg, the feature has dwindled to a mere ten forms which include three doublets.[20] In terms of the system, however, provection has not contracted a great deal. If we compare its system with that of Rhigos, where no contraction has begun, we get the following picture:

Rhigos

VCV	vpv(45)	vtv(163)	vkv(108)	vtʃv(3)
VCCV				
p + r(4)	l(7)		j(1)	
t + r(16)	l(4)	n(2)	j(11)	w(5) v(2)
k + r(4)	l(7)	n(2)	j(6)	w(1) v(2)

Dyffryn Wysg

VCV	vpv(1)	vtv(1)		vtʃv(2)
VCCV				
p + r(2)	l(2)			
t + r(5)	l(1)		j(1)	w(2)
k +	l(1)			

The feature holds its own into North Breconshire, where 18 provected forms have been noted, of which 15 are doublets, but the system shows a slight further contraction, e.g.

VCV	vpv(1)	vtv(1)	vkv(2)	vtʃv(1)

VCCV

p + r(1)				
t + r(7)	l(3)			w(1)
k +	l(1)			

Turning westwards, we are in the transition area in Dyffryn Llwchwr. Here 45 provected forms have been noted, and although intervocalic provection (with only 3 forms) has almost disappeared, as a system it has contracted relatively little in the context vowel-consonant, e.g.

VCV	vpv(1)	vtv(2)			
VCCV					
p + r(11)	l(7)				
t + r(12)	l(3)		j(4)	w(3)	m(1)
k + r(1)	l(4)	n(1)	j(1)		

Crossing into east Carmarthenshire, we find provection reduced numerically still further, to a set of 32 items, at Llangennech. In terms of the system, however, it has contracted less than in Dyffryn Llwchwr, for its intervocalic system is intact. In the surrounding districts, however, the feature loses ground rapidly. This area forms the western periphery of provection. The area also falls within the boundaries of the mediaeval commote of Carnwyllion and its sub-divisions, the maenorau of Berwig (within which Llangennech is situated), Llanedi, Llannon and Hengoed. The systematic decline of provection from maenor to maenor in this area[21] illustrates very clearly the way in which dialectal

features fade out at their furthest limits. The set of 32 provected forms noted in Berwig is reduced to 18 in Llanedi, to 9 in Llannon and to 8 in Hengoed. The system similarly contracts steadily as one moves further from the boundary of Glamorgan. And yet, although it now cuts across the phonological system of the local dialect, it is as stable a feature in its eight occurrences in Hengoed, of which only two are not doublets, as it is in places like Nantgarw which are at its centre.

One of the aspects of dialectology that never fail to surprise and fascinate the researcher is the fact that a linguistic feature at the furthest limits of its geographical distribution and reduced to a mere handful of forms is yet as stable in these forms as in dialects in which it is a major feature. Even when the field worker points out that the forms in question seem to be odd or irregular, speakers do not waver in their certainty as to their phonological shape.

A characteristic of transition and peripheral areas is the increase in doublets in the idiolects of the area, i.e. forms which occur in pairs, one of which exhibits the feature and one which does not. In Carmwyllion, this characteristic is much in evidence. In Berwig, of 32 occurrences, 13 are doublets; in Llanedi, of 18 occurrences, 15 are doublets; in Llannon, of 10 occurrences, 8 are doublets, and in Hengoed, of 8 occurrences, 6 are doublets. Only [ɛprɨ, kərðɛtwɪn] occur in all four maenorau without an unprovected doublet.

One fact that has been brought home to us is that in Wales, as elsewhere, ancient administrative boundaries may still be reflected in the boundaries of dialect features. This fact

was first brought home to us through Mr. Thorne's work in east Carmarthenshire, an area of transition, as we have seen, for several of the characteristic features of Glamorgan, not least of which is provection. A systematic statement of provection in the area seemed impossible until Mr. Thorne resolved to look at the matter in the light of the ancient administrative boundaries of the area. The difficulty was resolved at once and what had seemed an unsystematic and confusing picture was now seen as an orderly progression with all changes in the system taking place at the boundaries of the ancient administrative units, the commote and its maenorau.

It has not yet been possible to follow up this lead very far to establish whether the distribution of dialectal features elsewhere in the S.E. can be related as closely as this with the ancient administrative units. But it may not be without significance that the Glamorgan-Breconshire border which is a far more important dialectal boundary than that between sub-dialects within Glamorgan and their neighbours also coincides with a more important mediaeval boundary, that of the 'gwlad'[22], than that between the sub-dialects of Glamorgan, which we have examinaed in this paper, each of which is situated within a different mediaeval unit within the ancient 'gwlad' of Glamorgan than its neighbour. The mere fact that these sub-dialects can be linked even tenuously with ancient administrative boundaries in this way in a heavily industrialised region such as this does seem to merit closer attention.

Caerdydd. Ceinwen H. Thomas.

TROEDNODAU

This paper is based on the following unpublished M.A. dissertations of the University of Wales undertaken under the auspices of the Welsh Language Research Unit at Cardiff.

(i) Astudiaeth Seinyddol o Gymraeg Llafar Ardal Tafarnau Bach, Sir Fynwy. M. Middleton. M.A. 1965.

(ii) Astudiaeth Seinyddol o Dafodiaith Merthyr Tudful a'r Cylch. Lyn Davies. M.A. 1968.

(iii) Astudiaeth Seinyddol o Dafodiaith Hirwaun ynghyd â Geirfa. Gilbert Ruddock. M.A. 1968.

(iv) Astudiaeth Seinyddol o Gymraeg Llafar Coety Walia a Rhathin ym Mro Morgannwg. John Bevan. M.A.1970.

(v) Astudiaeth o Dafodiaith Gymraeg Cylch y Rhigos. O.M.Samuel. M.A. 1970.

(vi) Astudiaeth Seinyddol a Morffolegol o Dafodiaith Llangennech. D.A. Thorne. M.A. 1971.

Also the following unpublished M.A. dissertations of the Universities of Wales and London undertaken at other centres:

(i) Tafodiaith Plwyf Llansamlet. T. Arwyn Watkins. M.A. 1951.

(ii) Astudiaeth o Gymraeg Llafar Dyffryn Elái a'r Cyffiniau. V.H. Phillips. M.A. 1955.

(iii) Tafodiaith Rhan Isaf Dyffryn Llwchwr. E.C. Rees. M.A. 1958.

(iv) Astudiaeth o Gymraeg Llafar Dyffryn Wysg. Alan R. Thomas. M.A. 1958.

(v) A Phonological Conspectus of the Welsh Dialect of Nantgarw (Glamorgan). C.H. Thomas. M.A.(University of London) 1961, together with an, as yet, unpublished lexicon of this dialect by the author of this paper.

1. Mr. D.A. Thorne, now of St. David's University College, Lampeter, is currently working on an extended area in the neighbourhood of Llangennech, taking as his field the ancient Welsh administrative area, the commote of Carnwyllion and its sub-divisions, the maenorau of Berwig (within which Llangennech is situated), Llanedi, Llannon and Hengoed. His decision to work within the confines of ancient boundaries in an industrialised area has given a fruitful turn to the dialect studies of the Welsh Language Research Unit under whose auspices he is still working. Recently, the Welsh Language Research Unit has moved into north Breconshire, where my colleague, Mr. Glyn Evans Jones, M.A., is working in the area of Godre'r Epynt and surrounding districts. I am deeply indebted to Mr. Glyn Jones and Mr. D.A. Thorne for generously making available to me the material relating to their current researches. All the material relating to north Breconshire noted in this paper has been put at my disposal by Mr. Glyn Jones and the material relating to provection in Carnwyllion by Mr. D.A. Thorne.

2. Tafarnau Bach, Merthyr Tudful, Hirwaun, Rhigos.

3. The possible overall inventory is
   (i) simple vowels: (1) /i, ɪ, e, ɛ, [æ], a, ɑ, ɒ, o, ɔ, u, ʊ/
   (2) /ɨ, ɤ, ə/
   (ii) vowel clusters: /aɪ, ɔɪ, əɪ/
   /aɨ, ɑɨ, ɔɨ, uɨ, əɨ/
   /au, ɑu, ɛu, ɪu, ɤu/

4. It realises the graphemes (1) "a" "ae" in monosyllables, e.g. [tæɨ, kæ, ɬæθ]. The form [ɬæθ] realises both graphological "llaeth" and "llath". (2) ae, au, ai, in tonic final syllable, e.g. [kəmɾæg, barχĝæ, glaŋæ, gɒmbæ] (Cymraeg, marchočau, glanhâu, onibâi).

5. Thomas Darlington: Some Dialectal Boundaries in Mid-Wales. Trans.Cym. 1900, pp. 29-31 suggests that it developed in the Welsh Marches not earlier than the 17th century among bilingual speakers of that area and spread later into the Welsh hinterland.

6. The glottal fricative has prosodic, not distinctive, function in these dialects.

7. 27 of these were noted in the S.E. and eight more were added in the two Breconshire areas: one in Dyffryn Wysg and seven in Godre'r Epynt. At Cellan in Cardiganshire, in the S.W. region, Mr. Tom Marks, a research student at the Unit, has added three more items to the list, bringing the total for the south to date to 38 items. An informant from Fishguard on the Pembrokeshire coast added no further items to the set, but noted 15 of them as occurring in her dialect. In five dialects, those of Tafarnau Bach, Merthyr Tudful, Dyffryn Llwchwr, Llangennech, Godre'r Epynt, in our region, and again Cellan and Fishguard in the S.W., /ɔi/ has been noted as realisation of tonic 'ae' in the two items, aeddfed/aeddfedu, (which have the form [ɔivad/ɔivetɨ] in TB, and MT, [ɔiðved/ɔiðvedɨ] in Godre'r Epynt, and in one item [ɔived] in D.Ll. and [ɔivedɨ] in Llangennech.

8. The set of voiceless nasals: bilabial, dental/alveolar, velar, are a phonological, not a phonetic class, in Welsh. They are sometimes realised phonetically as voiceless nasals particularly in the form [ɡɑd](my father) but this is extremely rare. Usually they are realised as sequences of voiced nasal + glottal fricative [mh, nh, ŋh].

9. They are well established by the time Cellan is reached.

10. In Dyffryn Llwchwr [ei] substitutes for /ɔi/ in this position.

11. Tafarnau Bach has 6% in /ɛ/, 1% in a/ɛ doublets.
Merthyr Tudful has 9% in /ɛ/, 1% in a/ɛ doublets.
Hirwaun has 17% in /ɛ/, 13% in a/ɛ doublets.

12. They share this characteristic with the dialects of Anglesey and Caernarvonshire in the N.W.

13. The proportion of forms exhibiting post tonic /ɛ/ shows clearly their position inside the transition area:

Merthyr Tudful, post tonic /ɛ/ 42·5% doublets 3·25%.
Hirwaun, " " " 16·5% " 13%.
Rhigos, " " " 3·75% " 2%.
Tafarnau Bach, " " " 2·5% " 0·12%.

14. There is some evidence that provection in the region goes back to the 15th century at least. Some provected forms have been noted, e.g., in a copy of the "Dwned", the grammar used by the bardic schools, in the hand of Gwilym Tew, a noted 15th century bard of Glamorgan. Some place names of Monmouthshire have also been noted in a provected form in a manuscript dated c.1400. See V.H. Phillips: Astudiaeth o Gymraeg Llafar Dyffryn Elâi a'i Gyffiniau. pp.160-162.

15. e.g. (a) Between vowels [popɪ, katu, kekɪn](pobi, cadw, cegin).
(b) Between vowel or the diphthong /oɪ/ and the sonants /r, l, n/, [ɛprɪɬ, ɬoltro, ɛklos, trɛplɪ, dɪprɪʃ, ɛknɪ, trɔtnoθ](Ebrill, llwydrew, eglwys, tryblu, egni, troednoeth).
(c) (i) before semi-vowel [dɪkjo, wɛtjad, dɛtwɪ, katwad, mɔkjant](digio, dywediad, dodwy, cadwad, mogiant).
(ii) in coalescent assimilation plus provection of /d + ʃ/ [kɪtʃo, kɪtʃad, sgɪtʃa](cydio, cydiad, esgidiau).

16. i.e. it is a type of dissimilation.

17. e.g. [gwapar, dɪkon, bokɛtɪ, prɪtɪð]. It is not uncommon for forms to have short vowels in one dialect and long in another. e.g. [dɪkon/dɪkon, bokɛtɪ/bokɛtɪ].

18. Mr. Gilbert Ruddock succeeded in recording an informant in the act of remoulding a standard form into one showing provection. See p.119 of Astudiaeth Seinegol o Dafodiaith Hirwaun. The informant had been asked whether the word 'cledr' (palm of the hand) was in use in Hirwaun. She replied'Yes' - without hesitation, but then she seemed to have doubts for she began articulating the word over and over each time bringing the word nearer to a possible dialectal shape. First

she introduced epenthesis to break up the final CC cluster; next, she substituted a long vowel for the short one in the tonic syllable, and finally, she introduced provection, as follows: [klɛdr > klɛdar > kledar > kletar]. Having remoulded the word to an acceptable dialectal shape, she rejected it out of hand.

19. If we compare the feature in the dialects in terms of the size of the selection made by each from the provection set of the whole region, we get the following picture:

Southern dialects:	DE 58.	CW & Rh. 57.	N.69.	
The hill dialects:	TB 33.	M.T. 42.	H.36	Rhig. 61.
In the west:	Llansamlet 46.			

20. kɪtʃo, sgɪtʃe, kərdɪtwɪn, klɪtwern, dɪprɪs, kopla, daplas, ʧoltreu, plɪtran, etro, etlan, epɔk, səfetl, eprun, gɔdre/gɔtre, gɔdrɔ/gɔtrɔ, gwɪlɔtjɔn/gwɪlɔdjɔn, tɛklɛ/teglɛ.

21. Provection as realised in Carnwyllion.

1. Maenor Berwig

VCV	vpv(1)	vtv(3)	vkv(5)	vtʃv(2).	
VCCV					
p + r(2)	l(2)				
t + r(5)	l(1)	n(1)	j(2)	w(2)	m(1)
k +	l(2)		j(3)		

2. Maenor Llanedi

VCV		vtv(1)	vkv(3)	vtʃv(2)
VCCV				
p + r(1)	l(1)			
t + r(3)	l(1)	n(1)	j(1)	w(2)
k +	l(1)		j(1)	

3. Maenor Llannon

VCV		vtv(1)	vkv(2)	vtʃv(2)
VCCV				
p + r(1)				
t +	l(1)		j(1)	w(1)
k +	l(1)			

4. Maenor Hengoed

VCV			vkv(2)	vtʃv(2)

VCCV
p + r(1)
t + r(1) l(1) w(1)

22. Mediaeval Wales was divided up into a number of states known as gwledydd, each under a single ruler, such as Gwynedd in N.W. Wales and Powys in the N.E. But the term also applied to such regions as Dyfed (covering modern Pembrokeshire and part of Carmarthenshire) or Brycheiniog (covering most of modern Breconshire), which maintained their identity even after annexation into the larger 'gwlad' of Deheubarth. Glamorgan was also such a gwlad, with its boundaries extending from the Tawe to the Usk. The gwlad was divided into a number of cantrefi (hundreds) and each cantref into two or more cymydau (commotes). Within each cwmwd, the freemen tended to be grouped into special units, the gwestfâu or maenorau as they were variously called, for the payment of gwestfa dues to the rulers. (See Professor Wm. Rees, An Historical Atlas of Wales from Early to Modern Times, pp.24-25, and Plate 28)

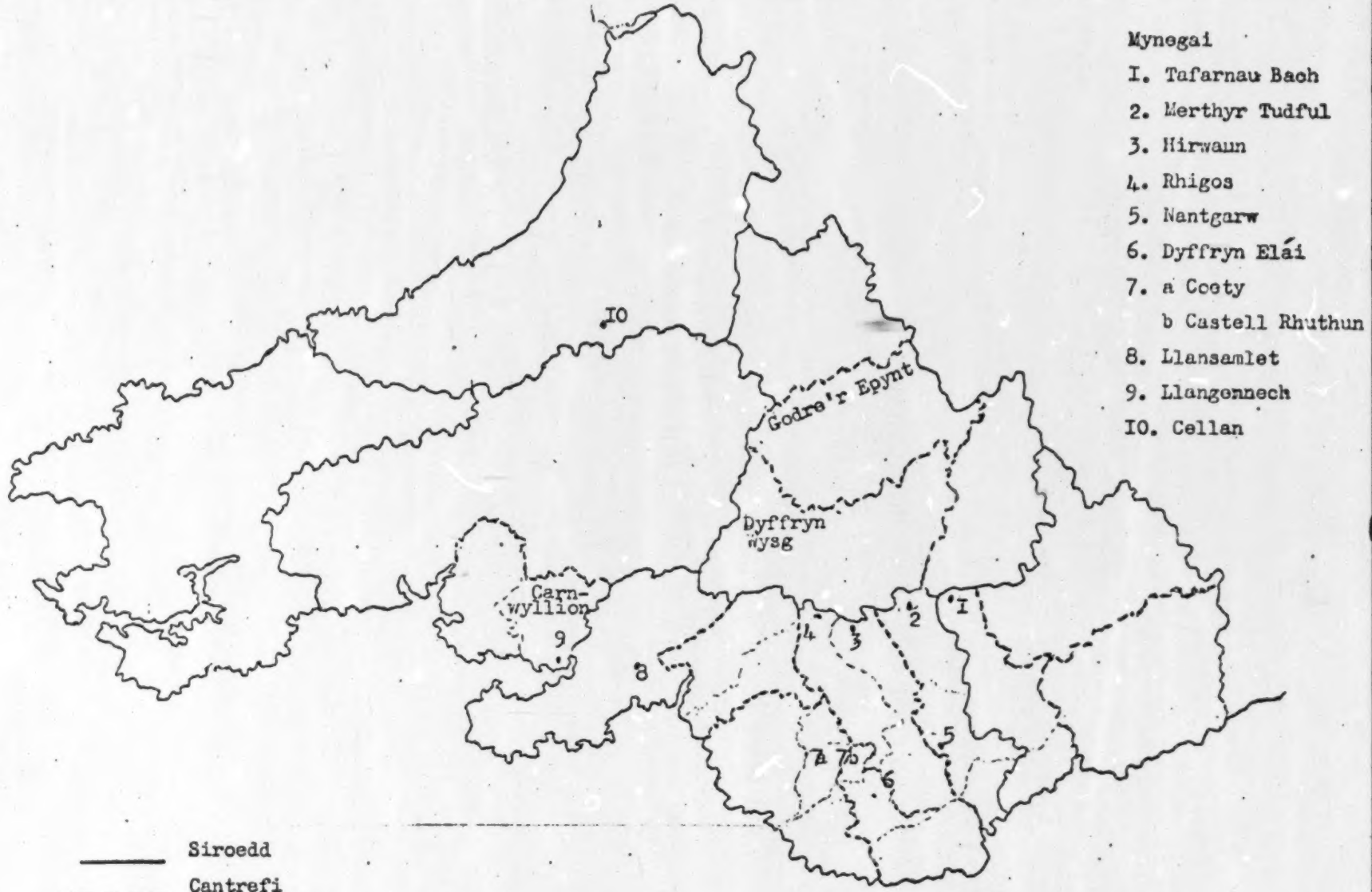
Mynegai
I. Tafarnau Bach
2. Merthyr Tudful
3. Hirwaun
4. Rhigos
5. Nantgarw
6. Dyffryn Elái
7. a Cooty
b Castell Rhuthun
8. Llansamlet
9. Llangonnech
10. Cellan
Godre'r Epynt
Dyffryn Wysg
Carn-wyllion
Siroedd
Cantrefi
Cymydau

Figure 1

Tonic Syllable

	DE	CW	N	TB	MT	H	Rh	Llans.	D
ae →	ai[80]	ai[54]	əi[96]	əi[39]	əi[79]	əi[88]	əi[93]	i[89]	
	əi[12]	əi[34]	ə[4]	i[34]	əi/i[12]	əi/i[6]	ə[3]	ɑ[3]	
	əi/i[3]	ai/əi[6]	—	əi/i[13]	i[7]	əi/əi[3]	ai[2]	ai[3]	
	ə[3]	ə[5]	—	ai[13]	ai[2]	ə/i[3]	ɑ[2]	i/ə[3]	
	ai/əi/i[2]	əi/a[1]	—	ai/a[1]	—	—	—	—	—
eu →	i[74]	i[71]	i[63]	i[40]	əi[61]	əi[74]	əi[88]	i[89]	
	əi[19]	əi[24]	əi[82]	əi[40]	əi/i[27]	əi/i[14]	ɔi[10]	ɔi[8]	
	ɔi[7]	ɔi[5]	ɔi[5]	ɔi[11]	ɔi[6]	ɔi[3]	əi/i[2]	i/əi[3]	
	—	—	—	i/əi[9]	i[3]	əi/ɔi[3]	—	—	—
	—	—	—	—	əi/ɔi[3]	i[3]	—	—	—
	—	—	—	—	—	ə[3]	—	—	—
ei →	i[71]	i[52]	i[51]	əi[47]	əi[75]	əi[86]	əi[85]	i[81]	i
	əi[23]	əi[38]	əi[46]	i[43]	əi/i[13]	i[5]	i[12]	əi[9]	ə
	ai[5]	ai[6]	ə[2]	əi/i[8]	i[12]	əi/i[11]	əi/i[2]	əi[6]	—
	əi/i[1]	ə[2]	i/əi[1]	ai[1]	—	əi/əi[4]	ə[1]	əi/i[2]	—
	—	əi/i[1]	—	əi/a[1]	—	ə[1]	ɔi[1]	ə[1]	—
	—	i/ə[1]	—	—	—	—	—	ɔi[1]	—
y →	ə[95]	ə[88]	ə[89]	ə[88]	ə[52]	ə[62]	ə[94]	i[47]	ə
	i[3]	i[9]	i[7]	ə/i[7]	ə/i[27]	i[21]	i[5]	ə[42]	i
	ə/i[2]	ə/i[3]	ə/i[4]	i[5]	i[21]	ə/i[16]	ə/i[1]	ə/i[11]	ə
	—	—	—	—	—	i/ə/ə[1]	—	ə/ɛ[1]	—
w →	ə[90]	ə[85]	ə[91]	[46]	[68]	[44]	[42]	[56]	

Figure 1

W	N	TB	MT	H	Rh	Llans.	D.Ll.	Llang.	Wysg	GE*
i 54	əl 96	əl 39	əl 79	əl 88	əl 93	i 89	i 87	i 84	i 60	i 69
l 34	ə 4	i 34	əl/l 12	əl/l 6	ə 5	ɑ 3	a 5	əl 16	əl 32	əl/l 19
l/əl 6	—	əl/l 13	i 7	əl/əl 3	ai 2	ai 3	ei 5	—	i/əl 8	əl 12%
5	—	ai 13	ai 2	ə/l 3	ɑ 2	l/ə 3	ə 3	—	—	
l/a 1	—	ai/a 1	—	—	—	—	—	—	—	
71	i 63	i 40	əl 61	əl 74	əl 88	l 89	i 79	i 54	i 45	l 8%
l 24	əl 82	əl 40	əl/l 27	əl/l 14	ɔl 10	ɔl 8	ei 17	əl 28	əl 33	ɔl 54%
l 5	ɔl 5	ɔl 11	ɔl 6	ɔl 3	əl/l 2	l/əl 3	ɔl 4	ɛ/əl 9	ɔl 17	əl 25%
—	—	l/əl 9	l 3	əl/ɔl 3	—	—	—	əl 9	l/əl 5	əl/l 4%
—	—	—	əl/ɔl 3	l 3	—	—	—	—	—	ɔl/əl 8%
—	—	—	—	e 3	—	—	—	—	—	
52	l 51	əl 47	əl 75	əl 86	əl 85	l 81	l 82	l 67	l 57	l 53
l 38	əl 46	l 43	əl/l 13	l 5	l 12	əl 9	əl 18	əl 29	əl 34	əl 28
i 6	ə 2	əl/l 8	i 12	əl/l 11	əl/l 2	ɔl 6	—	ə/i 3	əi/i 7	əl/l 11
2	l/əl 1	ai 1	—	əl/əl 4	e 1	əl/l 2	—	l/e 1	əl/əl 2	l/ɪ/əl
l/l 1	—	əl/a 1	—	e 1	ɔl 1	e 1	—	—	—	
/e 1	—	—	—	—	—	ɔl 1	—	—	—	
88	ə 89	ə 88	ə 52	ə 62	ə 94	l 47	ə 44	ə 50	ə 54	ə 85
	l 7	ə/l 7	ə/l 27	l 21	l 5	ə 42	l 39	l 40	l 37	l 8
l 3	ə/l 4	i 5	l 21	ə/l 16	ə/l 1	ə/l 11	ə/l 17	ə/l 10	ə/l 9	ə/l 5
—	—	—	—	l/ə/e 1	—	ə/ɛ 1	—	—	—	l 1

	ai/ei/i[2]	ei/a[2]	—	ai/a				
eu →	i[74]	i[72]	i[63]	i[40]	ei[61]	ei[74]	ei[88]	i[89]
	ei[19]	ei[24]	ei[82]	ei[40]	ei/i[27]	ei/i[14]	oi[10]	oi[8]
	oi[7]	oi[5]	oi[5]	oi[11]	oi[6]	oi[3]	ei/i[2]	i/ei[3]
	—	—	—	i/ei[9]	i[3]	ei/oi[3]	—	—
	—	—	—	—	ei/oi[3]	i[3]	—	—
	—	—	—	—	—	e[3]	—	—
ei →	i[71]	i[52]	i[51]	ei[47]	ei[75]	ei[86]	ei[85]	i[81]
	ei[23]	ei[38]	ei[46]	i[43]	ei/i[13]	i[5]	i[12]	ei[9]
	ai[5]	ai[6]	e[2]	ei/i[8]	i[12]	ei/i[11]	ei/i[2]	oi[6]
	ei/i[1]	e[2]	i/ei[1]	ai[1]	—	ei/ei[4]	e[1]	ei/i[2]
	—	ei/i[1]	—	ei/a[1]	—	e[1]	oi[1]	e[1]
	—	i/e[1]	—	—	—	—	—	oi[1]
y →	e[95]	e[88]	e[89]	e[88]	e[52]	e[62]	e[94]	i[47]
	i[3]	i[9]	i[7]	e/i[7]	e/i[27]	i[21]	i[5]	e[42]
	e/i[2]	e/i[3]	e/i[4]	i[5]	i[21]	e/i[16]	e/i[1]	e/i[11]
	—	—	—	—	—	i/e/e[1]	—	e/e[1]
w →	e[90]	e[85]	e[91]	o[46]	u[68]	e[44]	o[42]	u[56]
	o[7]	o[12]	o[9]	e[39]	e[17]	o[27]	e[41]	e[11]
	e/o[3]	e/o[3]	—	o/e[12]	u/e[13]	e/o[27]	e/o[15]	u/e[3]
	—	—	—	e/i[3]	—	i[2]	i[2]	—
Provection P	58·14	56·87	71·57	32·8	40·5	33	62·43	57·71
NP	40·58	42·55	28·15	66·5	57·6	64	37·29	41·86
D	1·28	0·58	0·28	0·7	1·9	3	0·28	0·43

*The figures for GE are provisional as the analysis of the dialect is no
unlikely that the final figures will alter the picture in any significa

24	ei^{82}	ei^{40}	ei/i^{27}	ei/i^{14}	$ɔi^{10}$	$ɔi^{8}$	ei^{17}	ei^{28}	ei^{33}	$ɔi^{548}$
5	$ɔi^{5}$	$ɔi^{11}$	$ɔi^{6}$	$ɔi^{3}$	ei/i^{2}	i/ei^{3}	$ɔi^{4}$	$ɛ/ei^{9}$	$ɔi^{17}$	ei^{258}
—	—	i/ei^{9}	i^{3}	$ei/ɔi^{3}$	—	—	—	ei^{9}	i/ei^{5}	ei/i^{48}
—	—	—	$ei/ɔi^{3}$	i^{3}	—	—	—	—	—	$ɔi/ei^{88}$
—	—	—	—	e^{3}	—	—	—	—	—	
2	i^{51}	ei^{47}	ei^{75}	ei^{86}	ei^{85}	i^{81}	i^{82}	i^{67}	i^{57}	i^{53}
38	ei^{46}	i^{43}	ei/i^{13}	i^{5}	i^{12}	ei^{9}	ei^{18}	ei^{29}	ei^{34}	ei^{28}
6	e^{2}	ei/i^{8}	i^{12}	ei/i^{11}	ei/i^{2}	ei^{6}	—	a/i^{3}	ei/i^{7}	ei/i^{11}
	i/ei^{1}	ai^{1}	—	ei/ei^{54}	e^{1}	$ɔi/i^{2}$	—	i/e^{1}	ei/ei^{2}	$i/i/ei$
$/i^{1}$	—	ei/a^{1}	—	e^{1}	oi^{1}	e^{1}	—	—	—	
e^{1}	—	—	—	—	—	oi^{1}	—	—	—	
8	e^{89}	e^{88}	e^{52}	e^{62}	e^{94}	i^{47}	e^{44}	e^{50}	e^{54}	e^{85}
	i^{7}	e/i^{7}	e/i^{27}	i^{21}	i^{5}	e^{42}	i^{39}	i^{40}	i^{37}	i^{8}
i^{3}	e/i^{4}	i^{5}	i^{21}	e/i^{16}	e/i^{1}	e/i^{11}	e/i^{17}	e/i^{10}	e/i^{9}	e/i^{5}
—	—	—	—	$i/e/e^{1}$	—	e/e^{1}	—	—	—	i^{1}
5	e^{91}	o^{46}	u^{68}	e^{44}	o^{42}	u^{56}	u^{81}	u^{98}	e^{64}	e^{80}
2	o^{9}	e^{39}	e^{17}	o^{27}	e^{41}	e^{11}	e^{11}	e^{2}	u^{33}	o^{12}
o^{3}	—	o/e^{12}	u/e^{13}	e/o^{27}	e/o^{15}	u/e^{3}	u/e^{6}	—	$/u^{2}$	u^{4}
—	—	e/i^{3}	—	i^{2}	i^{2}	—	e/i^{2}	—	e/i^{2}	e/i^{4}
·87	71·57	32·8	40·5	33	62·43	57·71	5·71	2·57	2·0	2·14
·55	28·15	66·5	57·6	64	37·29	41·86	93·58	97·43	97·43	97·53
·58	0·28	0·7	1·9	3	0·28	0·43	0·71	2	0·57	0·43

are provisional as the analysis of the dialect is not yet complete. However, it is final figures will alter the picture in any significant way.

Post-Tonic

Figure 2

	DE	CW	N	TB	MT	H	Rh	Lls.
æ →	a	a	a	a	a	a^{91}	a	a^{52}
						ə/ɛ^{9}		ɛ^{46}
								ə/ɛ^{2}
au →	a^{99}	a^{99}	a^{99}	a^{98}	a^{99}	a^{90}	a^{99}	ɛ^{88}
	i^{1}	i^{1}	i^{1}	i^{1}	i^{1}	i^{5}	i^{1}	a^{8}
				ai		ai^{5}		i^{4}
ai →	i^{46}	i^{49}	i^{44}	a^{92}	a^{99}	a^{62}	a^{51}	ɛ^{92}
	a^{36}	a^{33}	a^{37}	i^{4}	i^{1}	ai^{9}	i^{32}	ai^{4}
	ai^{15}	ai^{14}	ai^{10}	ai^{4}		a/ɛ^{7}	ai^{11}	ai/ɛ^{2}
	ai/i^{3}	a/i^{4}	ai/i^{7}			a/ɪ^{7}	a/i^{5}	ɪ^{2}
			a/ɪ^{1}			ɛ^{5}		
			a/ai^{1}			ɪ^{5}		
						ɛ/ɪ^{5}		
-aid(-ful) →	ɪd	ɪd	ɪd	ad^{52}	ɛd	ɛd^{36}	ɪd	ɛd
				ɪd^{48}		ɪd^{36}		
						ɛd/ad^{14}		
						ɛd/ɪd^{7}		
						ad^{7}		
-aid(pl.) →	(J)ɪd	(J)ɪd	(J)ɪd	(J)ad^{86}	ɛd	(J)ad^{76}	(J)ɪd	(J)ɛd
				(J)ɛd^{14}		ɛd^{8}		
						Jad/Jɛd^{8}		
						ad/ɛd/ɪd^{8}		
	67	91			ɛɛə^{75}	ɛəə^{52}	ɛəə^{50}	ɛəə

Figure 2

N	TB	MT	H	Rh	Lls.	D.Ll.	Llg.	D.W.	GE	C
a	a	a	a^{91}	a	a^{52}	ε^{73}	ε^{79}	ε^{53}	ε^{73}	
			a/ε^{9}		ε^{46} a/ε^{2}	a^{27}	a^{17} a/ε^{4}	a^{47}	a/ε^{27}	
a^{99}	a^{98}	a^{99}	a^{90}	a^{99}	ε^{88}	ε^{94}	ε^{99}	ε^{99}	ε^{97}	
i^{1}	i^{1} ai	i^{1}	i^{5} ai^{5}	i^{1}	a^{8} i^{4}	a^{4} i^{2}	$i^{0\cdot5}$ $a^{0\cdot5}$	$i^{0\cdot5}$ $a^{0\cdot5}$	a/ε^{28} $a^{0\cdot9}$	
i^{44}	a^{92}	a^{99}	a^{62}	a^{51}	ε^{92}	ε^{92}	ε^{86}	ε^{88}	ε^{77}	
a^{37} ai^{10} ai/i^{7} a/ι^{1} a/ai^{1}	i^{4} ai^{4}	i^{1}	ai^{9} a/ε^{7} a/ι^{7} ε^{5} ι^{5} ε/ι^{5}	i^{32} ai^{11} a/i^{5}	ai^{4} ai/ε^{2} ι^{2}	ai^{4} ai/ε^{2} ι^{2}	ai^{7} i/ι^{7}	ai^{7} ι^{4}	$ai^{7\cdot5}$ $\iota^{7\cdot5}$ ε/ai^{5} ε/ι^{2}	
ɪd	ad^{52}	ɛd	$ɛd^{36}$	ɪd	ed	ed	ed	ed	ɛd	
	$ɪd^{48}$		$ɪd^{36}$ $ɛd/ad^{14}$ $ɛd/ɪd^{7}$ ad^{7}							
(J)ɪd	(J)ad^{86}	ɛd	(J)ad^{76}	(J)ɪd	(J)ed	(J)ed	(J)ɛd	(J)ɛd	(J)ɛd	
	(J)$ɛd^{14}$		$ɛd^{8}$ $jad/jɛd^{8}$ $ad/ɛd/ɪd^{8}$							

				ɪd[48]		ɪd[36] ɛd/ad[14] ɛd/ɪd[7] ad[7]		
-aid(pl.) →	(J)ɪd	(J)ɪd	(J)ɪd	(J)ad[86]	ɛd	(J)ad[76]	(J)ɪd	(J)ed
				(J)ɛd[14]		ɛd[8] Jad/Jɛd[8] ad/ɛd/ɪd[8]		
-wraig →	rɪg[67]	rɪg[91]	rɪg	rag	reg[75]	reg[52]	rag[50]	reg
	wraig[33]	wraig[99]			reg/rag[25]	reg[16] raig[16] reg/rɪg[16]	rɪg[33] rag/reg[17]	
-aidd	ɪð[56]	ɪð[55]	ɪð[67]	að	eð[56]	eð[50]	að[75]	eð
	aɪð[25] að[13] ɪð/aɪð[6]	aɪð[36] að[9]	aɪð[24] ɪð/aɪð[9]		að[44]	að[50]	eð[25]	
-e	a	a	a	a[93] e[6] a/e[1]	a[90] e[9] e/ɪ[1]	a[69] e[18] e/a[13] a/ɪ[1]	a[95] e[5]	e
-wy → {u/ω} / ol / wi	o[84]	o[85]	o[84]	o[72]	o[88]	o[87]	o[92]	u[91]
	ol[13] o/ol[15] wɪ[1-5]	ol[14] wɪ[1]	ol[12] wɪ[3] o[1]	ol[14] wɪ[12] o/wɪ[1]	ol[8] wɪ[2] wɪ/o[2]	wɪ[8] ol[5]	ol[7] wɪ[1]	wɪ[7] ol[2]

	ɪd^{48}		ɪd^{30} ɛd/ad^{14} ɛd/ɪd^{7} ad^{7}						
(J)ɪd	(J)ad^{86}	ɛd	(J)ad^{76}	(J)ɪd	(J)ɛd	(J)ɛd	(J)ɛd	(J)ɛd	(J)ɛd
	(J)ɛd^{14}		ɛd^{8} jad/jɛd^{8} ad/ɛd/ɪd^{8}						
rɪg	rag	reg^{75}	rag^{52}	rag^{50}	reg	reg	reg	reg	reg
		reg/rag^{25}	reg^{16} raɪg^{16} rɛg/rɪg^{16}	rɪg^{33} rag/rɛg^{17}			wraɪg		
ɪð^{67}	að	ɛð^{56}	ɛð^{50}	að^{75}	ɛð	ɛð	ɛð	ɛð	ɛð
aɪð^{24} ɪð/aɪð^{9}		að^{44}	að^{50}	ɛð^{25}					
a	a^{93} ɛ^{6} ə/ɛ^{1}	a^{90} ɛ^{9} ɛ/ɪ^{1}	a^{69} ɛ^{18} ɛ/a^{13} a/ɪ^{1}	a^{95} ɛ^{5}	ɛ	ɛ	ɛ	ɛ	ɛ
o^{84}	o^{72}	o^{88}	o^{87}	o^{92}	u^{91}	u^{76}	u^{58}	u^{60}	u^{43}
oɪ^{12} wɪ^{3} o^{1}	oɪ^{14} wɪ^{12} o/wɪ^{1}	oɪ^{8} wɪ^{2} wɪ/o^{2}	wɪ^{8} aɪ^{5}	oɪ^{7} wɪ^{1}	wɪ^{7} oɪ^{2}	uɪ^{15} wɪ^{3} o^{2}	wɪ^{27} oɪ^{15}	oɪ^{20} wɪ^{20}	oɪ^{21} wɪ^{14} u/oɪ^{1} u/wɪ^{7}